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ART UNIT	**PAPER NUMBER**
2672	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/821,587	HIGGINS ET AL.
	Examiner	Art Unit
	Jin-Cheng Wang	2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7 and 9-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7 and 9-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/14/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments

Applicant's submission filed on 9/28/2005 has been entered. Claims 5-6, 8 have been canceled. Claims 1-4, 7, and 9-21 are pending in the present application.

Response to Arguments

Applicant's arguments filed September 11, 2005 have been fully considered but they are not found persuasive in view of the new ground of rejection set forth in the Office Action. As addressed below, Saylor, Bell and Moore teach the claim limitations. The Saylor reference teaches a map manipulating method including steps of: employing an existing map (e.g., a vector map) and an object database containing information on addresses located within the territory represented by the existing map; obtaining and display a raster map corresponding to the existing map, providing a vector database having information characteristic to the territory (region) represented by the rasterized map; displaying a vector map from the vector database, the displayed vector map containing information characteristic to the territory depicted in the rasterized map; substantially **aligning** corresponding areas of the raster map and the vector map (i.e., automatically manipulating a second map) (see for example, column 2, lines 27-48). From Saylor, it is clear that **the graphical representation for a particular territory/region on the vector map is different from the graphical representation of the corresponding territory/region on the aligned raster map**. The Saylor reference further teaches that the

aligned map provide an X, Y coordinate basis for the locating of specific addresses within the territory represented by the raster map (column 3, lines 4-15).

Saylor teaches identifying a house/building having an interruption in electrical service and addresses located within the area depicted by a rasterized map are graphically represented with each address having a definite X, Y coordinate *relative to the displayed raster map and the underlying vector map* (See column 7-8) wherein the houses/buildings in the raster map and the underlying vector map represent the different annotations, e.g., the actual landscape drawing on the raster map including the location of interruption/disturbance may represent the house/building and the a rectangular region on the vector map including the house/building name and number identification may just represent it. Under this interpretation, a graphical representation relative to the underlying vector map constitutes a first annotation (e.g., one of the street address including the name and number identification, outage coordinates, and the graphical representation of the address, etc.) and the graphical representation relative to the displayed raster map constitutes a second annotation (e.g., one of the outage coordinates, expanded company information on the subject address and the graphical representation of the address, colored marker, etc.). Saylor therefore teaches by *identifying* a house/building having an interruption in electrical service from the vector database by identifying the address with the house name and number identification, making a graphical representation on the house of the underlying vector map, determining the graphical representation of the house on the raster map as corresponding to the house on the vector map, and displaying/expanding the graphical representation with additional database information for the house to the raster map. Moreover, Saylor teaches displaying outage coordinates, the graphical representation for the address, and

the company information on the subject address (which constitutes a second annotation) on the raster map (column 7) and displaying the raster map and a graphical representation of an address located within the area represented by the raster map and the vector map and the graphical representation being expandable to provide object database information on the address. From this disclosure of Saylor, it is clear that Saylor teaches adding additional object database information to the graphical representations of the house on the raster map and the underlying vector map. Finally, Saylor also teaches adding the second annotation by posting an event marker at an appropriate location on the appropriate map, **adding a marker**, a colored pin for the interruptions/disturbances, the aligned territory on the raster scanned map and/or vector map, etc. to the second map (e.g., column 1, lines 30-50; column 7, lines 40-60). On Page 9 of the Remarks, applicant also argues that adding a colored pin for the interruptions/disturbances on the aligned raster map and the vector is done manually by adding a colored pin to the aligned map. In response to this argument, the Examiner notes that the claim limitation does not preclude manually adding a second annotation to the second map. Even if adding a colored pin for the interruptions/disturbances on the mapboard of the control center may be done manually, this disclosure of Saylor still teaches adding the second annotation to the second map at the determined address of the house.

Saylor suggests displaying a second map in a second area of the display in which Saylor teaches displaying the aligned map in a first area of the display because the two maps be displayed both on one of the plurality of computer monitors and large screen from floor to ceiling and wall to wall or projecting the aligned map on the wall at the system coordination center or the system control center (See column 1, lines 29-30 and column 3, lines 10-25) and

Saylor also teaches removing the vector map from the display of aligned maps such that only the raster map and the graphical representation located therein appear in the display (column 9). From this disclosure, Saylor suggests displaying the raster map on the first window of the display and displaying the aligned maps on the second window of the display and hence displaying the vector map. Therefore, Saylor teaches displaying the first map (along with the aligned second map) in the computer monitor and displaying the second map (along with the aligned first map) in the large mapboard such as the large screen from wall to wall or another computer monitor. Saylor at least suggests the claim limitation of "displaying a second map in a second area of the display."

Although Saylor does not <u>explicitly</u> teach the claim limitations of "converting the first map coordinates to corresponding geographic coordinates using a geo-referencing function of the first map; converting the geographic coordinates to corresponding second map coordinates using a geo-referencing function of the second map," Saylor explicitly teach how the raster map and vector map are aligned. **<u>Alignment of two maps with different scales requires the mapping of the map display coordinates to the map geo-referencing coordinates</u>**. *Saylor teaches the mapping (correspondence) between the latitude/longitude coordinates and the map display coordinates for the first map and the second map.* For example, in Saylor, the latitude/longitude identifiers correspond to individual names and addresses and thereby the latitude/longitude identifiers corresponding to the X, Y coordinates on the first map, say (x1, y1), are found for determining **<u>the corresponding coordinates</u>** on the second map. After that, the latitude/longitude coordinates/readings, say (xt, yt), are found and the latitude/longitude coordinates are converted to the X, Y coordinates on the second map or the vector map, say (x2,

y2). As a result, the X, Y coordinates on the raster map and the X, Y coordinates on the vector map are aligned, i.e., the X, Y coordinates for the raster map and the vector map are now aligned to be the same coordinates in a common coordinate system; see column 5, lines 1-42. As for the geo-referencing function of the first map, it is straightforward to find the latitude/longitude coordinates based on the X, Y coordinates of the first map because the latitude/longitude identifiers correspond to each individual names and addresses in the vector database. As for the geo-referencing function for the second map, <u>Saylor teaches the geo-referencing function or service for the second map (the so-called inverse function) for converting Lat/Long to X, Y coordinates pairs, see column 5, lines 15-29</u>.

Bell discloses transforming the pixel locations of the spatial array of pixels to corresponding latitude and longitude coordinates on the terrestrial surface and inversely translating latitude and longitude coordinates into sample coordinates of the map images to identify which pixels are to be mapped to the display screen (Bell column 2, lines 55-60 and column 7, lines 3-43 and column 8, lines 58-67 and column 9, lines 1-12). Therefore, Bell teaches the claim limitations of "converting the first map coordinates to corresponding geographic coordinates using a geo-referencing function of the first map; converting the geographic coordinates to corresponding second map coordinates using a geo-referencing function of the second map."

It would have been obvious to incorporate Bell's explicit teaching of the direct geo-referencing function of transforming the pixel locations of the spatial array of pixels to the corresponding latitude and longitude coordinates and inversely translating the latitude/longitude coordinates to the coordinates of the map images (Bell column 8, lines 58-67 and column 9, lines

1-12) into the Saylor's map alignment process because Saylor suggests the process by the teaching of the two geo-referencing functions/services (Saylor column 5, lines 1-42) and therefore suggesting an obvious modifications.

One of the ordinary skill in the art would have incorporated the two conversion steps to align the first map with the second map (Saylor column 5, lines 1-42) using the Bell's mapping functions (Bell column 8, lines 58-67 and column 9, lines 1-12).

Moore teaches among other things the "Auto-Sync" allowing multiple users to view changes of the geographically referencing object on different displays; column 11, lines 34-39 and column 12; or using an Internet browser software to view the map images through selection of the types of map images including map requests by the back and forward operations and map displays by a variety of different windows; column 10, lines 56-67; and zooming/scrolling of a map image to view different regions of a map image; column 13.

It is clear that one having the ordinary skill in the art would have been motivated to do this because it would have advantageously provided display means for displaying two maps separately in two different areas of the same display so that the corresponding areas between the raster map and the vector map can be clearly identified on separate displays such as on the map board on the walls of a control center and the computer monitors and the corresponding areas of the raster map and the vector map can be annotated with different symbols by one of the expanded graphical representation, street name and number identification, colors marking the disturbance events, outage locations and coordinates, and the graphical representations for the addresses identifying the troubled areas (Saylor column 1, lines 29-30 and column 3, lines 15-25; column 7-8).

Both Bell and Saylor do not explicitly disclose the claim limitation of "geo-referencing function." However, Moore discloses that vehicle geographic coordinates are converted to the pixel coordinates (Moore column 9, lines 50-67 and column 10, lines 1-12). Moore also discloses the geographic coordinates are calculated when the user points to the display locations on the map image (column 12). The geographically referencing objects on the map image are located on the map image by matching the land description in the map server and the longitude and latitude can be calculated from the land registration description and the specific display locations of the geographically referenced object can be determined (Moore column 12).

It would have been obvious to incorporate Moore's geo-referencing coordinates because Bell discloses Bell describes a forward mapping from the pixel coordinates to the geographic coordinates and an inverse mapping from the geographic coordinates to the pixel coordinates; column 8, lines 58-67 and column 9, lines 1-12 and Saylor also discloses a mapping relationship for converting the geographic coordinates (Lat/Lon coordinates) to the X, Y coordinates on the map image (See Saylor column 5, lines 15-29) and thereby disclosing a geo-referencing function for mapping the geographic coordinates to the display coordinates on the map image. Therefore, Bell and Saylor suggests the claim limitation of "geo-referencing function."

One or the ordinary skill in the art would have been motivated to use a geo-referencing function to map the geographic coordinates to the pixel coordinates in order to locate a vehicle on the map image (Moore column 9, lines 50-67 and column 10, lines 1-12) and use another geo-referencing function to map the pixel coordinates to the geographic coordinates to locate the geo-referenced image objects such as vehicle so that the dispatchers can order a particular vehicle to the desired geo-referenced location (Moore column 13).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 7 and 9-21 are rejected under 35 U.S.C. 103(a) as being as being unpatentable over Saylor U.S. Patent No. 5,487,139 (hereinafter Saylor) in view of Bell et al. U.S. Patent No. 5,422,989 (hereinafter Bell) and Moore et al. U.S. Patent No. 6,377,210 (hereinafter Moore).

3. Claim 1:

Saylor teaches a method for manipulating a map, comprising:

Displaying a first map (a vector map or a raster map) in one area of a display (e.g., column 2, lines 25-48; column 3, lines 5-15; column 7, lines 40-60);

Displaying a second map (e.g., primary maps, feeder maps, storm maps; column 4, lines 50-67) in the display (e.g., column 2, lines 25-48; column 3, lines 5-15; column 7, lines 40-67; column 8, lines 1-13),

wherein the first map and the second map depict at least a portion of an identical geographic region (e.g., aligning corresponding areas of the raster map the vector map; column 2, lines 25-48);

Making a first annotation (*e.g., the first annotation includes the emergency caller's addresses for the house on the underlying vector map including the street name and number identification, the graphical representation of the address on the underlying vector map, the outage location and coordinates, the outage identification, an annotation containing* <u>*information characteristic to the territory*</u> *corresponding to the area of the raster map;* <u>*labeling or identifying addresses within the territory depicted by the aligned raster and vector maps*</u>*; entering an address to search in the vector background database; column 6, lines 30-50; column 7-8*) on a first region of the first map expressed by first map coordinates (*e.g., displaying the annotation for the map image includes making the annotation expressed by first map coordinates on the displayed map; column 5, lines 30-40; column 7, lines 40-67; column 8, lines 1-13*);

Determining a geographic region on the second map (*e.g., determining a graphical representation of an address located within the area represented by the raster map that corresponds to the graphical representation of the address located within the area represented by the underlying vector map wherein the information on individual names and addresses within the territory depicted by the aligned raster and vector maps provides latitude/longitude identifiers for each vector; column 4, lines 1-20; column 5, lines 15-29; column 7, lines 40-67; column 8, lines 1-13*) corresponding to the first region using the second map coordinates (*e.g., In Saylor, the latitude/longitude identifiers correspond to individual names and addresses and thereby the latitude/longitude identifiers corresponding to the X, Y coordinates on the first map, say (x1, y1), are found for determining the corresponding coordinates on the second map. After that, the latitude/longitude coordinates/readings, say (xt, yt), are found and the latitude/longitude coordinates are converted to the X, Y coordinates on the second map or the*

vector map, say (x2, y2). As a result, the X, Y coordinates on the raster map and the X, Y coordinates on the vector map are aligned, i.e., the X, Y coordinates for the raster map and the vector map are now aligned to be the same coordinates in a common coordinate system; see column 5, lines 1-42); and

Adding a second annotation (*e.g., second annotation includes* _**the graphical representation of the address, colors marking of the disturbance events and posting an event marker at an appropriate location on the appropriate map along with labeling of addresses within the territory depicted by the aligned raster and vector map; the second annotation further includes the coloring of the disturbance events, the graphical representation for the addresses for the aligned territory on the raster map; the outage/interruptions/disturbances location and coordinate including the outage identification, and the expanded graphical representation including the company information on the subject address on the raster map**_*; see e.g., column 1 and 3; column 5-8; column 7-8*) to the second map (*e.g., a storm map or a network wall map or a general raster map; the second annotation such as serviceable event for a house with color* _*event marker*_ *has been added to the aligned map displayed on a plurality of display screens; also adding expanded company information to the graphical representation of the house* _*relative to the raster map and the underlying vector map*_*; see column 7, lines 40-67 and column 8, lines 1-13*) at the determined geographic region (e.g., *adding expanded company information to the graphical representation to the raster map*; column 1, lines 30-50; column 7, lines 40-67; column 8, lines 1-13).

Saylor's alignment of two maps with different scales requires the mapping of the map display coordinates to the map geo-referencing coordinates. *Saylor teaches the mapping*

(correspondence) between the latitude/longitude coordinates and the map display coordinates for the first map and the second map. For example, in Saylor, the latitude/longitude identifiers correspond to individual names and addresses and thereby the latitude/longitude identifiers corresponding to the X, Y coordinates on the first map, say (x1, y1), are found for determining **the corresponding coordinates** on the second map. After that, the latitude/longitude coordinates/readings, say (xt, yt), are found and the latitude/longitude coordinates are converted to the X, Y coordinates on the second map or the vector map, say (x2, y2). As a result, the X, Y coordinates on the raster map and the X, Y coordinates on the vector map are aligned, i.e., the X, Y coordinates for the raster map and the vector map are now aligned to be the same coordinates in a common coordinate system; see column 5, lines 1-42. As for the geo-referencing function of the first map, it is straightforward to find the latitude/longitude coordinates based on the X, Y coordinates of the first map because the latitude/longitude identifiers correspond to each individual names and addresses in the vector database. As for the geo-referencing function for the second map, Saylor teaches the geo-referencing function or service for the second map (the so-called inverse function) for converting Lat/Long to X, Y coordinates pairs, see column 5, lines 15-29.

Although Saylor does not explicitly teach the claim limitations of "converting the first map coordinates to corresponding geographic coordinates using a geo-referencing function of the first map; converting the geographic coordinates to corresponding second map coordinates using a geo-referencing function of the second map," Saylor explicitly teach how the raster map and vector map are aligned. In Saylor, the latitude/longitude identifiers correspond to individual names and addresses and thereby the latitude/longitude identifiers corresponding to the X, Y

coordinates on the first map, say (x1, y1), are found for determining the corresponding coordinates on the second map. After that, the latitude/longitude coordinates/readings, say (xt, yt), are found and the latitude/longitude coordinates are converted to the X, Y coordinates on the second map or the vector map, say (x2, y2). As a result, the X, Y coordinates on the raster map and the X, Y coordinates on the vector map are aligned, i.e., the X, Y coordinates for the raster map and the vector map are now aligned to be the same coordinates in a common coordinate system; see column 5, lines 1-42. As for the geo-referencing function of the first map, it is straightforward to find the latitude/longitude coordinates based on the X, Y coordinates of the first map because the latitude/longitude identifiers correspond to each individual names and addresses in the vector database. As for the geo-referencing function for the second map, Saylor teaches the geo-referencing function or service for the second map (the so-called inverse function) for converting Lat/Long to X, Y coordinates pairs, see column 5, lines 15-29. **Saylor's alignment of two maps with different scales requires the mapping of the map display coordinates to the map geo-referencing coordinates**. *Saylor teaches the mapping (correspondence) between the latitude/longitude coordinates and the map display coordinates for the first map and the second map.*

Bell discloses transforming the pixel locations of the spatial array of pixels to corresponding latitude and longitude coordinates on the terrestrial surface and inversely translating latitude and longitude coordinates into sample coordinates of the map images to identify which pixels are to be mapped to the display screen (Bell column 2, lines 55-60 and column 7, lines 3-43 and column 8, lines 58-67 and column 9, lines 1-12). Therefore, Bell teaches the claim limitations of "converting the first map coordinates to corresponding

geographic coordinates using a geo-referencing function of the first map; converting the geographic coordinates to corresponding second map coordinates using a geo-referencing function of the second map."

It would have been obvious to incorporate Bell's explicit teaching of the direct geo-referencing function of transforming the pixel locations of the spatial array of pixels to the corresponding latitude and longitude coordinates and inversely translating the latitude/longitude coordinates to the coordinates of the map images (Bell column 8, lines 58-67 and column 9, lines 1-12) into the Saylor's map alignment process because Saylor suggests the process by the teaching of the two geo-referencing functions/services (Saylor column 5, lines 1-42) and therefore suggesting an obvious modifications.

One of the ordinary skill in the art would have incorporated the two conversion steps to align the first map with the second map (Saylor column 5, lines 1-42) using the Bell's mapping functions (Bell column 8, lines 58-67 and column 9, lines 1-12).

However, Saylor and Bell are silent to the claim limitation of <u>displaying a second map in a second area of the display</u>.

Moore teaches "<u>displaying a second map in a second area of the display</u>" (*Moore teaches among other things the "Auto-Sync" allowing multiple users to view changes of the geographically referencing object on different displays; column 11, lines 34-39 and column 12; or using an Internet browser software to view the map images through selection of the types of map images including map requests by the back and forward operations and map displays by a variety of different windows; column 10, lines 56-67; and zooming/scrolling of a map image to view different regions of a map image; column 13*).

It would have been obvious to one of ordinary skill in the art to have displayed separately the two maps into Saylor and Bell's method for manipulating a map because Saylor teaches overlaying the images and transferring outage information to on-line service database for which the system can display the location of the interruption/disturbance on a display monitor and/or a plurality of display monitors and/or wall via projector (figure 1) and therefore teaches displaying the aligned maps on a plurality of display monitors and/or the wall via projector and therefore suggesting an obvious modification of Saylor.

Saylor suggests displaying a second map in a second area of the display while Saylor teaches displaying the aligned map in a first area of the display because Saylor maps be displayed both on the computer monitor and large screen from floor to ceiling and wall to wall at the system coordination center or the system control center (See Saylor column 1, lines 29-30 and column 3, lines 15-25). Therefore, Saylor teaches displaying the first map (along with the aligned second map) in the computer monitor and displaying the second map (*along with the aligned first map*) in the large mapboard such as the large screen from wall to wall or another computer monitor. Saylor at least suggests the claim limitation of "displaying a second map in a second area of the display."

Moore also teaches receiving or generating map data in pixel format (raster map) for a geographic region identified in a user request (column 7, lines 60-65) and displaying addresses of locations or landmarks on the map and the status changes from other users such as displaying an address location on the maps of all the user terminal equipment when one user geographically references an address; column 8, lines 53-65. Moore teaches the user of the user terminal equipment to change map displays, zoom-in and out and track a particular vehicle without

requiring new or updated vehicle location data from the datacenter (column 9). Moore discloses displaying static maps such as the raster scan maps as well as dynamic maps including a list of different maps such as radar images, vector maps and image maps (column 9) and the geo-referencing the geo-graphic coordinate system and the pixel coordinate system (column 10). Whenever a new map is selected, the variables used to establish the relative distances for the respective coordinate system of the map are reset along with the width and height of the map image and the positions of the objects relative to the new map. Whenever new vehicle position information is received, the new vehicle position is updated on the map display through the geographic coordinate system to pixel conversion process (column 10) and maps can be selected in a menu to select a map including a vector map and a raster digital map (column 10). Moore discloses geo-code operation identifying the street address and city/town designation of a particular vehicle location, building, or other landmark which has been geographically referenced on a particular map (column 12) and when the specific latitude and longitude of a requested geographically referenced object is calculated, the information is used by the requesting user terminal equipment and an arrow may be provided as part of the icon to point to the specific location of the geographically referenced object (column 12) and the dispatcher at one user terminal equipment can drag and drop any vehicle under their control to direct the selected vehicle to a geographically referenced address (column 13).

One having the ordinary skill in the art would have been motivated to do this because it would have advantageously provided display means for displaying two maps separately in two different areas of the same display so that the corresponding areas between the raster map and the vector map can be clearly identified on separate displays such as on the map board on the

walls of a control center and the computer monitors and the corresponding areas of the raster map and the vector map can be annotated with different symbols by one of the expanded graphical representation, street name and number identification, colors marking the disturbance events, outage locations and coordinates, and the graphical representations for the addresses identifying the troubled areas (Saylor column 1, lines 29-30 and column 3, lines 15-25; column 7-8).

Both Bell and Saylor do not explicitly disclose the claim limitation of "geo-referencing function." However, Moore discloses that vehicle geographic coordinates are converted to the pixel coordinates (Moore column 9, lines 50-67 and column 10, lines 1-12). Moore also discloses the geographic coordinates are calculated when the user points to the display locations on the map image (column 12). The geographically referencing objects on the map image are located on the map image by matching the land description in the map server and the longitude and latitude can be calculated from the land registration description and the specific display locations of the geographically referenced object can be determined (Moore column 12).

It would have been obvious to incorporate Moore's geo-referencing coordinates because Bell discloses Bell describes a forward mapping from the pixel coordinates to the geographic coordinates and an inverse mapping from the geographic coordinates to the pixel coordinates; column 8, lines 58-67 and column 9, lines 1-12 and Saylor also discloses a mapping relationship for converting the geographic coordinates (Lat/Lon coordinates) to the X, Y coordinates on the map image (See Saylor column 5, lines 15-29) and thereby disclosing a geo-referencing function for mapping the geographic coordinates to the display coordinates on the map image. Therefore, Bell and Saylor suggests the claim limitation of "geo-referencing function."

One or the ordinary skill in the art would have been motivated to use a geo-referencing function to map the geographic coordinates to the pixel coordinates in order to locate a vehicle on the map image (Moore column 9, lines 50-67 and column 10, lines 1-12) and use another geo-referencing function to map the pixel coordinates to the geographic coordinates to locate the geo-referenced image objects such as vehicle so that the dispatchers can order a particular vehicle to the desired geo-referenced location (Moore column 13).

Claim 2:

The claim 2 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of "selecting a second map." However, the Saylor reference teaches selecting a second map in which addresses are identified within the territory depicted by the aligned raster and vector maps (Saylor column 3, lines 4-15).

Claim 3:

The claim 3 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of "selecting a first map." However, Moore further discloses the claimed limitation of selecting a first map (*Moore teaches among other things the "Auto-Sync" allowing multiple users to view changes of the geographically referencing object on different displays; column 11, lines 34-39 and column 12; or using an Internet browser software to view the map images through selection of the types of map images including map requests by the back and forward operations and map displays by a variety of different windows; column 10, lines 56-67; and zooming/scrolling of a map image to view different regions of a map image; column 13*).

The Saylor reference teaches that the aligned map provide an X, Y coordinate basis for the locating of specific addresses within the territory represented by the raster map (Saylor column 3, lines 4-15).

Claim 4:

The claim 4 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of "receiving a display of a second map that is automatically associated with the first map." However, the Saylor reference teaches receiving a display of a second map that is automatically associated with the first map (Saylor column 2, lines 27-48)

Claim 7:

The claim 7 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of the second map being a digital raster map. However, the Saylor reference teaches obtaining/receiving a raster image of the existing map; providing a vector database having information characteristic to the territory (region) represented by the rasterized map (i.e., second map); displaying a vector map (i.e., first map) from the vector database, the displayed vector map containing information characteristic to the territory depicted in the rasterized map; substantially aligning corresponding areas of the raster map and the vector map (i.e., automatically manipulating a second map) (Saylor column 2, lines 27-48). The Saylor reference further teaches raster/vector overlaying capabilities and multi-simultaneous user software including CAD capabilities to create nested drawings and maps with graphical tools, complete coordinate geometry features to facilitate the designing and inputting of field and map surveying

information for highways, **waterways**, etc., a graphical relations database system for tracking information contained on maps and drawings, information manipulation capabilities including the ability to zoom and pan maps in which a user can search vector background for name match (Saylor column 4, lines 7-19, and column 6, lines 28-45).

Claim 9:

The claim 9 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of the user manipulating the first map. However, Moore further discloses the claimed limitation of the user manipulating the first map (*Moore teaches among other things the "Auto-Sync" allowing multiple users to view changes of the geographically referencing object on different displays; column 11, lines 34-39 and column 12; or using an Internet browser software to view the map images through selection of the types of map images including map requests by the back and forward operations and map displays by a variety of different windows; column 10, lines 56-67; and zooming/scrolling of a map image to view different regions of a map image; column 13*). The Saylor reference teaches "user manipulation" in a rasterizing system where a user can convert raster scanned images into a different format for system manipulation such as the ability to zoom and pan maps (Saylor column 5, lines 1-14, and column 4, lines 7-19).

Claim 10:

The claim 10 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of the user manipulating the second map. However, the Saylor reference teaches the user manipulation of the second map in the user interface such as "Import Vector Background Into System" to provide latitude/longitude identifiers for each vector (column 5, lines 15-28). The Saylor reference also teaches locating an address on the second map (Saylor column 7, 9-18)

Claim 11:

The claim 11 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of receiving a display of a second region associated with a second map, the second region being geographically substantially similar to the first region. However, the Saylor reference teaches displaying a vector map (i.e., a second map) from the vector database (Saylor column 2, lines 27-48). The Saylor reference teaches that the raster scanned images and the vector maps generated from the vector background database are overlayed and aligned (Saylor column 5, lines 29-41). The Saylor reference further teaches locating a second address on the second map having the second address geographically substantially similar to the first address (Saylor column 7, 9-18)

Claim 12:

The claim 12 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of changing a view of the first map. However, the Saylor reference discloses the user interface software that has the ability to zoom and pan maps (Saylor column 5, lines 1-14, and column 4, lines 7-19).

Claim 13:

The claim 13 encompasses the same scope of invention as that of claim 12 except additional claimed limitation of receiving a display in response to the user interaction. However, the Saylor reference teaches a system capable of displaying the location of the interruption/disturbance on display monitor (Saylor figure 1) upon user interaction so as to appear overlapped on the raster-scanned map (Saylor column 7, lines 40-59).

Claim 14:

The claim 14 encompasses the same scope of invention as that of claim 13 except additional claimed limitation of receiving a display of the second map, the display of the second map being representative of the responsive display of the first map. However, the Saylor reference implicitly teaches receiving the outage coordinates and displaying them on a raster-scanned map (Saylor column 7, lines 40-59).

4. Claim 15:

The claim 15 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a computer readable medium containing instructions executable by a computer to manipulate a map.

However, the Saylor reference teaches in figure 1 a computer readable medium such as the InfoCAD, i.e., the computer aided drafting geographical information system package having raster/vector overlaying capabilities (Saylor column 4, lines 1-6).

Claim 16:

The claim 16 encompasses the same scope of invention as that of claim 15 except additional claimed limitation of enabling viewer referencing of at least the first map. However, the Saylor reference teaches that the aligned map provide an X, Y coordinate basis for the locating of specific addresses within the territory represented by the raster map (Saylor column 3, lines 4-15).

Claim 17:

The claim 17 encompasses the same scope of invention as that of claim 15 except additional claimed limitation of receiving a command to change a map view; and receiving a responsive display of the first map, the responsive display being representative of the user interaction. However, the Saylor reference teaches that InFoCAD has the information manipulation capabilities including the ability to zoom and pan maps (Saylor column 4, lines 1-18). Moreover, the Saylor reference implicitly teaches a system capable of displaying the location of the interruption/disturbance on display monitor (Saylor figure 1) upon a user interaction so as to appear overlapped on the raster-scanned map (Saylor column 7, lines 40-59).

Claim 18:

The claim 18 encompasses the same scope of invention as that of claim 15 except additional claimed limitation of receiving of a display of a second region on the second map, the second region being geographically substantially similar to the first region. However, the Saylor reference teaches the multi-simultaneous user software including CAD capabilities to create nested drawings and maps with graphical tools (Saylor column 4, lines 7-18). The Saylor reference also teaches locating a second address on the second map having the second address geographically substantially similar to the first address (Saylor column 7, 9-18).

5. Claim 19:

The claim encompasses the same scope of invention as that of claim 1 except additional claimed limitation of an apparatus for manipulating a map.

However, the Saylor reference teaches in figure 1 an apparatus with a computer memory such as a storm database 16 and an on-line service database 18 coupled with a workstation 12 capable of enabling map manipulation (Saylor column 4, lines 20-37).

Claim 20:

The claim 20 encompasses the same scope of invention as that of claims 19 and 16-18. The claim is rejected for the same reason as set forth in above.

Claim 21:

The claim 21 is subject to the same rationale of rejection set forth in the claim 7 since the first map and the second map are interchangeable. This is because the coordinates of the first map can be mapped to the coordinates on the second map and vice versa.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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